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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/354,815	07/16/1999	TOSHIYUKI TANAKA	15162/00790	5615

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EXAMINER

TRAN, NHAN T

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 08/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/354,815

Applicant(s)

TANAKA, TOSHIYUKI

Examiner

Nhan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 28 May 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

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DETAILED ACTION

Drawings

The corrected or substitute drawing was received on 5/28/2003. These drawings are accepted.

Response to Arguments

Applicant's arguments filed 5/28/2003 have been fully considered but they are not persuasive.

With respect to claim 1, the Applicant asserts that neither Kudo, Ejima, nor Takei discloses controlling an exposure amount for a next frame in a sequence of photographs based on the light quantity data output from a light-receiving element in a sequence-photograph mode, and controlling the exposure amount based on the image data output from an image pick-up element in the other modes.

In response, the Examiner respectfully disagrees with the Applicant. As shown by Kudo in Fig. 14, col. 19, lines 13-25, it clear that the exposure amount for a next frame is also performed based on the light quantity data output from the light measurement device as long as the user or photographer still holds the shutter button (SW2 as shown in step S152 of Fig. 14) in the continuous shooting mode. In other reference, Ejima explicitly teaches a controller (39) that controls the exposure amount based on either the image data output from an image sensor (20) or

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the light quantity data output from the light measurement device (51, 52) in the other modes as shown in Fig. 6, col. 5, lines 50-55 & col. 6, lines 13-22.

In view of the above, the Examiner believes that the interpretation of the present claimed invention does, in fact, read on the cited references at least for the reasons discussed above and as stated in the following Office Action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 - 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudo et al (US 5,517,243) in view of Ejima et al (US 5,585,942) and in further view of Takei et al (US 4,746,949).

Regarding claim 1, Kudo et al disclose a digital camera (electronic still camera) having a sequence-photograph mode (continuous mode) and the other modes (single mode or frame mode with no flashing or with flashing) as shown in fig. 13; col. 1, lines 15-16; col. 16, lines 11-22, the digital camera comprising:

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an image pick-up element (image sensor 103) for receiving light reflected from an object and outputting image data of the object (see fig. 6);

light-receiving element (light measurement 111) for outputting data as to a light quantity received from the object, the light-receiving element being different from the image pick-up element (see fig. 6; col. 6, lines 51-54);

a first controller (system controller 110) for controlling an exposure amount of the image pick-up element for a next frame in sequence of photographs based on the light-quantity data output from the light receiving element in the sequence-photograph mode (see figs. 6, 13 & 14; col. 17, lines 15-26, 45-47 & col. 19, lines 13-25 wherein the exposure amount for a next frame is also performed based on the light quantity data output from the light measurement device as long as the user or photographer still holds the shutter button SW2 shown in step S152 of Fig. 14);

Kudo et al do not disclose a second controller for controlling the exposure amount of the image pick-up element based on the image data output from the image pick-up element in the other modes.

Ejima et al teach a second controller (DSP 33) for controlling the exposure amount of image pick-up element (CCD 20) via the CCD driving circuit (34) based on either the image data output from the image pick-up element (CCD 20) or the light-receiving element (photometric device 16, photometric circuit 51) in both continuous shooting and single shooting modes, in which the DSP 33 repeatedly adjusts exposure time of the CCD 20 until it reaches an appropriate level at the time of starting the camera, and by that time, the DPS may operate the photometric 51 first and then compute the initial value of the exposure time of the CCD 20 as shown in fig. 6;

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col. 5, lines 50-55; col. 6, lines 13-22 & col. 4, lines 37-57; wherein the single shooting mode is the mode when the user captures one still image or one frame by operating the mode switch 13 to "S" and the capture button 10 (SW2).

The above operation enables adjustment of exposure time for the CCD 20 to be achieved in a short time as suggested in col. 6, lines 21-22.

Therefore, it would have been obvious to those skilled in the art to modify the exposure control method in Kudo et al with the teaching of Ejima et al by using both the output data from the CCD and the light-receiving element for enabling adjustment of exposure time for the CCD to be achieved in a short time.

Kubo et al and Ejima et al do not expressly teach that the controller for controlling the exposure amount of the image pick-up element based only on the data output from the image pick-up element in the single shooting mode. However, as taught by Takei et al, image data output from the middle portion of the image sensor is used in the calculation for exposure control in still photography mode since that portion provides a more apposite light measurement for the object being photographed (see figs. 4-6; col. 1, lines 49-52; col. 4, line 41 – col. 5, line 37). Based on this teaching it would have been obvious for still mode photography in Ejima et al to use the central portion of image plane data output from image sensor for calculating exposure amount since the photometric circuit would be unable to provide such information.

Therefore, it would have been obvious to those skilled in the art to enhance the combined camera system of Kubo et al and Ejima et al based on the teaching of Takei et al to use only the data from the image pick-up element in the still photography mode by enabling the CCD to output the image data corresponding to the middle portion of the image plane to the controller for

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use to compute the quantity of light thereof, so that the exposure control is performed more accurately because the data is taken directly from the central portion of CCD where the main object luminance is most often measured and captured in the still picture mode (single shooting mode).

Regarding claim 2, Kubo et al show that the image pick-up element is a CCD (see fig. 6; col. 6, lines 27-29).

Regarding claim 3, as analyzed in claim 1, the second controller controls the exposure time of the CCD via the CCD driving circuit based on the image data output from the CCD and the light measurement from the middle part of the image plane thereof (see analysis in claim 1, also see Ejima et al, col. 8, lines 39-41 for charge accumulation time in terms of electronic shutter operation of the CCD).

Regarding claims 4 & 5, Kubo et al disclose a third controller (112) for controlling parameters other than charge accumulation time of the CCD, based on the data from the light-receiving element (light measuring device 111) in the single shooting mode or frame mode with no flashing or with flashing (see figs. 6, 8 & 10; col. 6, lines 51-62 & col. 12, lines 26-32, 46-62).

Regarding claims 6 - 10, the claimed limitations are met in the analysis in claims 1-5, respectively.

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Regarding claims 11 - 15, the claimed limitations are met in the analysis in claims 1-5, wherein controller is implemented with combination of variety of software modules as shown by Kudo, Ejima and Takei to function as system controller for the camera.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (703) 605-4246. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

NT.
July 28, 2003



ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600